



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,970	02/08/2005	Tsutomu Nakamura	Q85753	3988
23373	7590	10/03/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER MAKI, STEVEN D	
			ART UNIT 1733	PAPER NUMBER
			MAIL DATE 10/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,970	Applicant(s) NAKAMURA, TSUTOMU	
	Examiner Steven D. Maki	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>052606,020805</u> . | 6) <input type="checkbox"/> Other: ____ |

1) Figure 12-16 should be designated by a legend such as ---Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2) Claim 6 objected to because of the following informalities: In claim 6, "code" should be --cord--.. Appropriate correction is required.

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Great Britain 069

5) **Claims 1-2 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Great Britain 069 (GB 2114069).**

Nakamura 263 discloses a pneumatic motorcycle tire comprising a tread 22, sidewalls 24, bead cores 14, carcass 12, narrow cross belt members 28A and 28B and spiral belt 26. In figure 1, the cross belt members 28A, 28B are arranged radially outside the spiral belt 26. In figure 6, the narrow cross belt members 28A, 28B are arranged radially inside the spiral belt 26 and a wide auxiliary belt 34 is arranged radially outside spiral belt 26. Nakamura teaches using a steel cord having an initial tensile strength of at least 50 cN/cord in any one of the spiral belt and pair of cross belt members (paragraph 16). The spiral belt comprises a cord spirally wound along the circumferential direction. The cords in the cross belt members are inclined at an angle θ of 20-80 degrees with respect the equatorial plane. The total width A of the cross belt members is 70-150% of the tread width B. The spacing C between the cross belt members is 1-50 mm. Nakamura 263 teaches mounting the tires on a motorcycle as shown in example 1 or example 2 (figure 7) to ensure rigidity of the front tire against braking external force and ensure rigidity of rear tire against traction external force. Nakamura 263 teaches mounting the tires as described above to improve high speed durability, shimmy, handling and cornering gripping. Nakamura 263 is silent as to grooves.

As to claims 1-2 and 5-7, it would have been obvious to one of ordinary skill in the art to provide Nakamura 263's motorcycle tire with a main groove component oriented at an angle of 0-20 degrees with respect to the circumferential direction in view of Great Britain 069's suggestion to provide a motor cycle tire with isolated long inclined grooves as shown in figure 4 so as to reduce the problem of uneven wear but permit

water to escape from the ground contact area. In figure 4, groove part 118 of the long inclined grooves 112, 114 is oriented at 0 degrees to the circumferential direction.

6) Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Great Britain 069 (GB 2114069) as applied above and further in view of Nakamura 415 (US 6,276,415).

As to claim 4, it would have been obvious to one of ordinary skill in the art to provide the long inclined groove suggested by Great Britain 069 with a groove width of 1.5-7.5% tread width since (1) Great Britain 069 teaches forming the long grooves with suitable size (width and length) to obtain the water escape requirement, but reduce uneven wear and (2) Nakamura 415 suggests forming long inclined grooves in a motorcycle tread with a width of 3-15% of the tread width.

7) Claims 8, 11, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Great Britain 069 (GB 2114069) as applied above and further in view of Japan 505 (JP 63-121505).

As to claims 8, 11, 14 and 17, it would have been obvious to use both the claimed grooves A and B since (1) Great Britain 069 teaches using two types of grooves (long inclined grooves 112, 114 and short grooves 122-125 between the inclined long grooves 112, 114) and (2) Japan 505 suggests that short inclined grooves 3-5 in a motorcycle tread may be inclined in a direction opposite that of long inclined grooves (figure 2).

8) Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Great Britain 069 (GB 2114069) and

Art Unit: 1733

Japan 505 (JP 63-121505) as applied above and further in view of Japan 719 (JP 2001-030719).

As to claim 16, it would have been obvious to one of ordinary skill in the art to provide the tread with a negative ratio of 5-20% since Japan 719 suggests using a negative ratio of 10-25% for a motorcycle having high speed durability without deteriorating drainage and wear resistance.

Nakagawa et al

9) Claims 8, 10-12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa (US 6,220,320).

See figure 1, figure 2, col. 3 lines 33-36, col. 3 lines 37-59.

10) Claims 1-3, 5-8, 10-13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Nakagawa et al (US 6,220,320).

Nakamura 263 discloses a pneumatic motorcycle tire comprising a tread 22, sidewalls 24, bead cores 14, carcass 12, narrow cross belt members 28A and 28B and spiral belt 26. In figure 1, the cross belt members 28A, 28B are arranged radially outside the spiral belt 26. In figure 6, the narrow cross belt members 28A, 28B are arranged radially inside the spiral belt 26 and a wide auxiliary belt 34 is arranged radially outside spiral belt 26. Nakamura teaches using a steel cord having an initial tensile strength of at least 50 cN/cord in any one of the spiral belt and pair of cross belt members (paragraph 16). The spiral belt comprises a cord spirally wound along the circumferential direction. The cords in the cross belt members are inclined at an angle

Art Unit: 1733

theta of 20-80 degrees with respect the equatorial plane. The total width A of the cross belt members is 70-150% of the tread width B. The spacing C between the cross belt members is 1-50 mm. Nakamura 263 teaches mounting the tires on a motorcycle as shown in example 1 or example 2 (figure 7) to ensure rigidity of the front tire against braking external force and ensure rigidity of rear tire against traction external force. Nakamura 263 teaches mounting the tires as described above to improve high speed durability, shimmy, handling and cornering gripping. Nakamura 263 is silent as to grooves.

As to claims 1-3, 5-8, 10-13, 15 and 17, it would have been obvious to one of ordinary skill in the art to provide Nakamura 263's motorcycle tire with a main groove component oriented at an angle of 0-20 degrees with respect to the circumferential direction in view of Nakagawa et al's suggestion to form grooves in a tread of a motorcycle tire as shown in figure 1 to improve lateral stiffness so as to improve steering stability. The claimed "main groove component oriented at an angle of 0-20 degrees" (claim 1) or "groove C" (claim 8) reads on the circumferential groove 4, which Nakagawa et al teaches may extend zigzag or straight (col. 3 lines 33-36). As to claim 8, the claimed groove A read on one the grooves 3a and 3b and the claimed groove B reads on the other groove of grooves 3a and 3b. Nakagawa et al teaches that groove 3a is oriented at 20-70 (40-60) degrees with respect to the circumferential direction in one direction whereas groove 3b is oriented at 20-70 (40-60) degrees with respect to the circumferential direction in the opposite direction. As to claim 10, the claimed relative lengths and areas of grooves A and B would have been obvious and could have

Art Unit: 1733

been determined without undue experimentation in view of Nakagawa et al's teaching to connect grooves 3a and 3b at mid bending point P and to form groove 3a inclined at angle alpha and groove 3b inclined at angle beta according to a pitch DP, which is 1-20% of the circumferential length of the tire.

11) Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Nakagawa et al (US 6,220,320) as applied above and further in view of Japan 307 (JP 63-315307).

As to claims 4 and 9, it would have been obvious to one of ordinary skill in the art to provide the grooves with a width of 1.5-7.5% tread width since (1) Nakagawa et al teaches using a groove width of $1/25$ to $1/20$ pitch DP and pitch DP = $1/100$ to $1/20$ circumferential length of the tire and (2) Japan 307, also directed to a tire tread for a motorcycle, discloses an example tread width TW = 176 mm, pitch P = 190 mm and circumferential length of tire = 1900 mm (page 3 left column).

12) Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Nakagawa et al (US 6,220,320) as applied above and further in view of Japan 719 (JP 2001-030719).

As to claim 16, it would have been obvious to one of ordinary skill in the art to provide the tread with a negative ratio of 5-20% since Japan 719 suggests using a negative ratio of 10-25% for a motorcycle having high speed durability without deteriorating drainage and wear resistance.

Japan 105

13) Claims 1-3, 5-8, 10-13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Japan 105 (JP 63-212105).

Nakamura 263 discloses a pneumatic motorcycle tire comprising a tread 22, sidewalls 24, bead cores 14, carcass 12, narrow cross belt members 28A and 28B and spiral belt 26. In figure 1, the cross belt members 28A, 28B are arranged radially outside the spiral belt 26. In figure 6, the narrow cross belt members 28A, 28B are arranged radially inside the spiral belt 26 and a wide auxiliary belt 34 is arranged radially outside spiral belt 26. Nakamura 263 teaches using a steel cord having an initial tensile strength of at least 50 cN/cord in any one of the spiral belt and pair of cross belt members (paragraph 16). The spiral belt comprises a cord spirally wound along the circumferential direction. The cords in the cross belt members are inclined at an angle θ of 20-80 degrees with respect the equatorial plane. The total width A of the cross belt members is 70-150% of the tread width B. The spacing C between the cross belt members is 1-50 mm. Nakamura 263 teaches mounting the tires on a motorcycle as shown in example 1 or example 2 (figure 7) to ensure rigidity of the front tire against braking external force and ensure rigidity of rear tire against traction external force. Nakamura 263 teaches mounting the tires as described above to improve high speed durability, shimmy, handling and cornering gripping. Nakamura 263 is silent as to grooves.

As to claims 1-3, 5-8, 10-13, 15 and 17, it would have been obvious to one of ordinary skill in the art to provide Nakamura 263's motorcycle tire with a main groove component oriented at an angle of 0-20 degrees with respect to the circumferential direction in view of Japan 105's suggestion to form grooves as shown in figure 1 to improve drive stability and wet property during turning wherein groove part 2c (one of groove A or groove B) is inclined at an angle theta of 30-60 degrees and groove 3 (other of groove A and groove B) is perpendicular to the groove part 2c. The claimed groove C reads on the circumferential groove C or groove part 2a inclined at angle alpha of 5-20 degrees to the circumferential direction.

14) Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Japan 105 (JP 63-212105) as applied above and further in view of Nakamura 415 (US 6,276,415).

As to claim 4, it would have been obvious to one of ordinary skill in the art to provide the inclined grooves suggested by Japan 105 with a groove width of 1.5-7.5% tread width since Nakamura 415 suggests forming long inclined grooves in a motorcycle tread with a width of 3-15% of the tread width.

15) Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura 263 (US 2001/0045263) in view of Japan 105 (JP 63-212105) as applied above and further in view of Japan 719 (JP 2001-030719).

As to claim 16, it would have been obvious to one of ordinary skill in the art to provide the tread with a negative ratio of 5-20% since Japan 719 suggests using a

Art Unit: 1733

negative ratio of 10-25% for a motorcycle having high speed durability without deteriorating drainage and wear resistance.

Remarks

16) The remaining references are of interest.

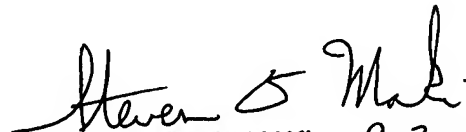
17) No claim is allowed.

18) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Mai
September 30, 2007


STEVEN D. MAKI 9-30-07
PRIMARY EXAMINER